

RRB Group D Memory Based Paper (Aug 04, 2026)

Q1. What is the primary evolutionary advantage of sexual reproduction over asexual reproduction?

- (a) It requires less energy and time.
- (b) It produces a larger number of offspring rapidly.
- (c) It introduces genetic variation, aiding in adaptation and survival.
- (d) It ensures that the offspring are genetically identical to the parent.

Q2. Which of the following organelles is prominent in mature plant cells but generally small or absent in animal cells, providing turgor pressure?

- (a) Mitochondria
- (b) Large central vacuole
- (c) Golgi apparatus
- (d) Lysosomes

Q3. Transpiration in plants serves which of the following primary functions?

- (a) Transport of synthesized food from leaves to roots.
- (b) Absorption of carbon dioxide from the atmosphere.
- (c) Cooling the plant and facilitating the upward movement of water and minerals.
- (d) Prevention of pathogen entry through the stomata.

Q4. A convex lens has a focal length of 25 cm. What is the power of the lens?

- (a) +4.0 D (b) -4.0 D (c) +0.25 D (d) -2.5 D

Q5. Biological catalysts, known as enzymes, speed up chemical reactions in the body by:

- (a) Increasing the temperature of the cell.
- (b) Lowering the activation energy required for the reaction.
- (c) Increasing the concentration of the reactants.
- (d) Changing the pH of the surrounding medium.

Q6. In the fluid mosaic model of the cell membrane, what is the primary function of carbohydrates attached to proteins (glycoproteins)?

- (a) Facilitating the transport of ions across the membrane.
- (b) Providing structural rigidity similar to a cell wall.
- (c) Acting as identification tags for cell-to-cell recognition.
- (d) Synthesizing ATP for cellular energy.

Q7. Which of the following is an example of an endothermic decomposition reaction?

- (a) $\text{C(s)} + \text{O}_2\text{(g)} \rightarrow \text{CO}_2\text{(g)}$
- (b) $\text{CaO(s)} + \text{H}_2\text{O(l)} \rightarrow \text{Ca(OH)}_2\text{(aq)}$
- (c) $\text{CaCO}_3\text{(s)} + \text{Heat} \rightarrow \text{CaO(s)} + \text{CO}_2\text{(g)}$
- (d) $\text{CH}_4\text{(g)} + 2\text{O}_2\text{(g)} \rightarrow \text{CO}_2\text{(g)} + 2\text{H}_2\text{O(g)}$

Q8. Which vitamin is synthesized by gut bacteria and is absolutely essential for the synthesis of prothrombin, a key protein in blood clotting?

- (a) Vitamin A (b) Vitamin C (c) Vitamin E (d) Vitamin K

Q9. The SI unit of electric current is the Ampere. One Ampere is defined as:

- (a) The flow of one Joule of energy per second.
- (b) The potential difference of one Volt applied across one Ohm.
- (c) The flow of one Coulomb of charge per second.
- (d) The work done in moving an electron across a vacuum.

Q10. A ball of mass 5 kg is dropped from a height of 20 meters. What is the ratio of its kinetic energy to its potential energy when it is exactly at a height of 10 meters from the ground? (Ignore air resistance).

- (a) 2:1 (b) 1:2 (c) 1:1 (d) 4:1

Q11. Which type of simple permanent plant tissue is characterized by dead cells with heavily thickened lignified walls, providing rigid mechanical support?

- (a) Parenchyma (b) Collenchyma (c) Sclerenchyma (d) Aerenchyma

Q12. Faraday's Law of Electromagnetic Induction states that the induced electromotive force (EMF) in a circuit is directly proportional to the:

- (a) Rate of change of electric flux.
- (b) Rate of change of magnetic flux linked with the circuit.
- (c) Strength of the magnetic field only.
- (d) Resistance of the conducting wire.

Q13. The speed of light in a certain transparent medium is 2×10^8 m/s. If the speed of light in a vacuum is 3×10^8 m/s, what is the absolute refractive index of the medium?

- (a) 1.5 (b) 0.66 (c) 1.33 (d) 2.0

Q14. A major limitation of Newlands' Law of Octaves was that it:

- (a) Placed isotopes in the same slot.
- (b) Was only applicable to elements up to Calcium.
- (c) Left no gaps for undiscovered elements.
- (d) Grouped elements solely based on their physical state.

Q15. Isobars are atoms of different elements that possess:

- (a) The same atomic number but different mass numbers.
- (b) The same mass number but different atomic numbers.
- (c) The same number of neutrons but different number of protons.
- (d) The same chemical properties but different physical properties.

Q16. Two stones are thrown vertically upwards with initial velocities in the ratio of 2:3. What will be the ratio of the maximum heights attained by them?

- (a) 2:3 (b) 4:9 (c) $\sqrt{2} : \sqrt{3}$ (d) 8:27

Q17. Echinoderms, such as the starfish, exhibit which type of symmetry in their adult stage?

- (a) Bilateral symmetry (b) Asymmetry (c) Radial symmetry
- (d) Spherical symmetry

Q18. Three resistors of 6Ω , 3Ω , and 2Ω are connected in parallel. What is the equivalent resistance of the combination?

- (a) 11Ω (b) 6Ω (c) 1Ω (d) 0.5Ω

Q19. Bleaching powder is chemically produced by the action of chlorine gas on which of the following substances?

- (a) Quick lime (CaO)
- (b) Slaked lime (Ca(OH)_2)
- (c) Limestone (CaCO_3)
- (d) Calcium chloride (CaCl_2)

Q20. The BCG vaccine is primarily administered to infants to provide immunity against which disease?

- (a) Tuberculosis
- (b) Polio
- (c) Hepatitis B
- (d) Typhoid

Q21. According to Charles Darwin's theory of evolution, what is the primary driving mechanism that allows species to adapt to their environments over time?

- (a) Inheritance of acquired characteristics.
- (b) Mutation rate.
- (c) Natural selection (Survival of the fittest).
- (d) Genetic drift.

Q22. The Froth Flotation process is a metallurgical method specifically used for the concentration of which type of ores?

- (a) Oxide ores
- (b) Carbonate ores
- (c) Sulphide ores
- (d) Halide ores

Q23. Rutherford's alpha-particle scattering experiment led to the discovery of the:

- (a) Electron
- (b) Proton
- (c) Atomic nucleus
- (d) Neutron

Q24. A sound wave has a wavelength of 1.5 meters and travels at a speed of 330 m/s. What is the frequency of the wave?

- (a) 220 Hz
- (b) 495 Hz
- (c) 110 Hz
- (d) 330 Hz

Q25. In terms of electron transfer, an oxidation reaction is defined as:

- (a) The gain of electrons by an atom or ion.
- (b) The loss of electrons by an atom or ion.
- (c) The sharing of electrons between two non-metals.
- (d) The addition of hydrogen to a compound.

Q26. A and B can complete a piece of work in 20 days and 30 days respectively. They work together for 5 days, after which A leaves. In how many days will B finish the remaining work alone?

- (a) 12.5 days (b) 15 days (c) 17.5 days (d) 20 days

Q27. In a frequency distribution, if the Mean is 25 and the Mode is 22, find the value of the Median using the empirical relationship.

- (a) 23 (b) 24 (c) 26 (d) 21

Q28. A sum of ₹4,700 is divided among A, B, and C such that 3 times A's share is equal to 4 times B's share, which is equal to 5 times C's share. What is the share of B?

- (a) ₹2,000 (b) ₹1,500 (c) ₹1,200 (d) ₹1,800

Q29. The difference between the Compound Interest and Simple Interest on a certain sum for 2 years at 10% per annum is ₹250. Find the principal sum.

- (a) ₹25,000 (b) ₹20,000 (c) ₹30,000 (d) ₹22,500

Q30. The product of two numbers is 1080 and their H.C.F. is 6. What is the L.C.M. of these two numbers?

- (a) 180 (b) 120 (c) 90 (d) 360

Q31. A father's age is 3 times the age of his son. After 10 years, the father's age will be exactly twice the son's age. What is the present age of the father?

- (a) 45 years (b) 36 years (c) 30 years (d) 42 years

Q32. A car travels at a speed of 40 km/h for the first 2 hours and then at 60 km/h for the next 3 hours. What is the average speed of the car for the entire journey?

- (a) 50 km/h (b) 52 km/h (c) 48 km/h (d) 55 km/h

Q33. If $\tan x = \frac{4}{3}$, find the value of $\frac{\sin x + \cos x}{\sin x - \cos x}$.

- (a) 7 (b) -7 (c) 1/7 (d) 5

Q34. In an election between two candidates, 10% of the votes cast were declared invalid. The winning candidate secured 60% of the valid votes and won by a majority of 1800 votes. Find the total number of votes cast.

- (a) 12,000 (b) 10,000 (c) 15,000 (d) 9,000

Q35. A trader marks his goods 40% above the cost price and then allows a discount of 15% on the marked price. What is his overall profit percentage?

- (a) 25% (b) 20% (c) 19% (d) 24%

Q36. What positive number x should be added to 10, 16, 22, and 32 so that the resulting numbers are in continuous proportion?

- (a) 6 (b) 8 (c) 4 (d) 2

Q37. The price of petrol increases by 25%. By what percentage must a car owner reduce his consumption so that his monthly expenditure on petrol remains unchanged?

- (a) 25% (b) 20% (c) 15% (d) 16.66%

Q38. The base radius of a solid right circular cylinder is 7 cm and its height is 10 cm. Find the curved surface area of the cylinder. (Use $\pi = \frac{22}{7}$)

- (a) 440 cm² (b) 308 cm² (c) 616 cm² (d) 220 cm²

Q39. A certain sum of money invested at simple interest amounts to ₹5,000 in 2 years and ₹6,000 in 3 years. What is the principal sum?

- (a) ₹3,000 (b) ₹2,500 (c) ₹4,000 (d) ₹3,500

Q40. A train passes a stationary pole in 15 seconds. It passes a 100-meter-long platform completely in 25 seconds. What is the speed of the train in km/h?

- (a) 54 km/h (b) 36 km/h (c) 45 km/h (d) 72 km/h

Q41. The 6-digit number 45A23B is divisible by both 9 and 5. What is the maximum possible value of $(A + B)$?

- (a) 12 (b) 13 (c) 14 (d) 11

Q42. The length and breadth of a rectangle are $(x + 4)$ meters and $(x - 2)$ meters respectively. If the perimeter is 36 meters, what is the area of the rectangle?

- (a) 72 m² (b) 60 m² (c) 77 m² (d) 96 m²

Q43. The sum of two numbers is 60 and their H.C.F. is 12. How many such pairs of numbers are possible?

- (a) 1 (b) 2 (c) 3 (d) 4

Q44. A sum of money placed at compound interest doubles itself in 4 years. In how many years will it become 8 times of itself at the same rate of interest?

- (a) 12 years (b) 16 years (c) 8 years (d) 24 years

Q45. The speed of a boat in still water is 10 km/h. It travels 60 km downstream in 4 hours. What is the speed of the stream?

- (a) 2.5 km/h (b) 4 km/h (c) 5 km/h (d) 6 km/h

Q46. The lengths of the diagonals of a rhombus are 16 cm and 12 cm. Find the perimeter of the rhombus.

- (a) 20 cm (b) 40 cm (c) 48 cm (d) 52 cm

Q47. Simplify the expression: $\sin(90^\circ - \theta) \times \cos(90^\circ - \theta)$

- (a) $\sin^2 \theta$ (b) $\cos^2 \theta$ (c) $\sin \theta \cos \theta$ (d) 1

Q48. A store offers three different discount schemes on a product. Which scheme provides the highest discount to the customer?

I. Two successive discounts of 20% and 20%

II. A single flat discount of 38%

III. Two successive discounts of 25% and 15%

- (a) Scheme I
(b) Scheme II
(c) Scheme III
(d) Scheme II and III give the same highest discount

Q49. Tap A can fill a tank in 10 hours, and Tap B can fill it in 15 hours. If they are opened on alternate hours starting with Tap B, in how many hours will the tank be completely filled?

- (a) 12 hours (b) 12.5 hours (c) 11.5 hours (d) 13 hours

Q50. P, Q, and R enter into a partnership investing their capital in the ratio of 3:4:5. The ratio of the time periods for which they invested is 1:2:3. If the total profit earned at the end of the term is ₹5,200, find the profit share of Q.

- (a) ₹1,600 (b) ₹1,200 (c) ₹2,000 (d) ₹2,400

Q51. In a certain code language, 'WATER' is coded as 'YCVGT'. How will the word 'FIRE' be coded in the same language?

- (a) HKTE (b) HKVG (c) HKTC (d) HKUG

Q52. Six persons A, B, C, D, E, and F live on six different floors of a building, but not necessarily in the same order. The ground floor is numbered 1 and the top floor is 6. C lives immediately above D. Only two people live between E and F. A lives on an odd-numbered floor above 3. F lives on floor number 2. Who lives on the topmost floor?

- (a) E (b) C (c) A (d) B

Q53. Which two mathematical signs must be interchanged to make the given equation correct?

$$15 + 5 \times 4 - 8 \div 2 = 13$$

- (a) + and $\div$ (b) $\times$ and - (c) $\div$ and $\times$ (d) + and -

Q54. If 'APPLE' is coded as 50, and 'PEN' is coded as 35, what will be the code for 'ORANGE'?

- (a) 60 (b) 65 (c) 70 (d) 55

Q55. In a certain artificial language, '1 2 3' means 'blue bright sky', '3 4 5' means 'sky is high', and '5 6 7' means 'mountains are high'. Which digit stands for 'sky'?

- (a) 1 (b) 2 (c) 3 (d) 5

Q56. If CAT = 24 and DOG = 26, then what is the value of HORSE?

- (a) 60 (b) 65 (c) 70 (d) 75

Q57. Read the statements and conclusions carefully.

Statements: All dogs are cats. Some cats are rats.

Conclusions:

I. Some dogs are rats.

II. Some rats are cats.

- (a) Only conclusion I follows
(b) Only conclusion II follows
(c) Both I and II follow
(d) Neither I nor II follows

Q58. In a row of 50 students facing North, Rahul is 22nd from the left end. What is his position from the right end?

- (a) 28th (b) 29th (c) 27th (d) 30th

Q59. What will come next in the number series?

2, 6, 12, 20, 30, ?

- (a) 40 (b) 42 (c) 36 (d) 48

Q60. Statements: No pen is a pencil. All pencils are erasers.

Conclusions:

I. No pen is an eraser.

II. Some erasers are pencils.

- (a) Only conclusion I follows
(b) Only conclusion II follows
(c) Both I and II follow
(d) Neither I nor II follows

Q61. Find the missing term in the alphanumeric series:

A1, C4, E9, G16, ?

- (a) I25 (b) H25 (c) I24 (d) J25

Q62. Eight people are sitting in two parallel rows containing four people each. Row 1: P, Q, R, S facing South. Row 2: W, X, Y, Z facing North. P sits opposite to the person who is to the immediate right of W. R sits at one of the extreme ends and faces Z. Who sits opposite to Q if Q is to the immediate left of R?

- (a) X (b) Y (c) W (d) Cannot be determined

Q63. Aman starts from his house, walks 10 km towards the East, turns left and walks 15 km, then turns right and walks 10 km, and finally turns right and walks 15 km. How far is he from his starting point?

- (a) 10 km (b) 15 km (c) 20 km (d) 25 km

Q64. Choose the odd letter cluster from the following options:

- (a) ACE (b) GIK (c) MOQ (d) RSU

Q65. Five books are placed on a table one above the other. Book Physics is just above Chemistry. Biology is just below Mathematics. English is placed at the very bottom. If Chemistry is just above Biology, which book is at the top?

- (a) Physics (b) Mathematics (c) Chemistry (d) Biology

Q66. In the number 857324, if 1 is added to all even digits and 1 is subtracted from all odd digits, what will be the sum of the digits of the newly formed number?

- (a) 30 (b) 28 (c) 29 (d) 31

Q67. Refer to the following alphanumeric series:

3 A E 4 * B 9 U C 5 # 2 I K 7

How many consonants are immediately preceded by a vowel and immediately followed by a number?

- (a) None (b) One (c) Two (d) Three

Q68. If '+' is interchanged with '×', and '4' is interchanged with '5', then what is the value of $4 + 5 \times 2$?

- (a) 14 (b) 13 (c) 22 (d) 18

Q69. If the word 'READ' is coded as '18514', how will the word 'TOWN' be coded?

- (a) 20152314 (b) 20152414 (c) 21152314 (d) 20142314

Q70. If 'NATURE' is written as 'OBUVSF', then how will 'FOREST' be written?

- (a) GPSFTU (b) GPTFTU (c) GPSTFU (d) GPPFTU

Q71. Select the related number:

5 : 125 :: 7 : ?

- (a) 216 (b) 343 (c) 289 (d) 245

Q72. Pointing to a woman in a photograph, a man says, "She is the only daughter of my wife's father's wife." How is the woman related to the man?

- (a) Sister (b) Sister-in-law (c) Wife (d) Mother-in-law

Q73. Six friends M, N, O, P, Q, and R are sitting around a circular table facing the center. P sits second to the right of M. O sits immediately left of P. N is not an immediate neighbor of M. Who sits opposite to R?

- (a) M (b) O (c) P (d) N

Q74. Seven people are sitting in a straight row facing North. P sits exactly in the middle of the row. Q sits second to the left of P. Only one person sits between Q and R. S sits at the extreme right end. T sits immediate left of S. Who sits at the extreme left end?

(a) R (b) U (c) V

(d) Cannot be determined definitively (Assume U and V fill remaining spots, R must be extreme left)

Q75. If $A > B \geq C = D < E$, which of the following conclusions is strictly true?

(a) $A > D$ (b) $B < E$ (c) $A > E$ (d) $C > E$

Q76. How many 7s are there in the following sequence which are immediately preceded by 5 and immediately followed by 3?

5 7 3 2 5 7 4 5 7 3 8 7 3

(a) 1 (b) 2 (c) 3 (d) 4

Q77. In a certain code language, if P means '+', Q means '-', R means '×', and S means '÷', find the value of:

16 R 4 P 10 S 2 Q 5

(a) 60 (b) 64 (c) 69 (d) 58

Q78. AB 3 is related to DE 9 in a certain logic. Following the same logic, GH 15 is related to:

(a) JK 20 (b) JK 21 (c) IJ 19 (d) KL 21

Q79. Identify the word that CANNOT be formed using the letters of the word 'ENVIRONMENT'.

(a) MENTOR (b) IRON (c) ENTER (d) ROUTE

Q80. Choose the logical Venn diagram that best represents the relationship between: Earth, Planets, and Sun.

(a) Three separate non-intersecting circles.

(b) One large circle containing a smaller circle, and a third separate circle outside.

(c) Three intersecting circles.

(d) One large circle containing two smaller separate circles.

Q81. The "Kisan Mitra" mobile application, launched by the Ministry of Agriculture in early 2026, primarily aims to provide farmers with:

- (a) Direct financial loans from RBI.
- (b) Real-time weather forecasting and crop advisory services.
- (c) Platform to buy tractors at subsidized rates.
- (d) Free healthcare insurance policies.

Q82. Which country hosted the G20 Summit in the year 2026?

- (a) India (b) Brazil (c) United States (d) South Africa

Q83. Who won the Wimbledon Men's Singles title in 2026?

- (a) Carlos Alcaraz (b) Novak Djokovic (c) Jannik Sinner (d) Daniil Medvedev

Q84. In the Q1 2026 monetary policy announcement, the Reserve Bank of India (RBI) kept the repo rate unchanged at:

- (a) 6.00% (b) 6.25% (c) 6.50% (d) 6.75%

Q85. The annual financial benefit under the PM-KISAN scheme was increased in the 2026 Union Budget to:

- (a) ₹6,000 (b) ₹8,000 (c) ₹10,000 (d) ₹12,000

Q86. During PM Narendra Modi's official visit to Japan in March 2026, the two nations signed a landmark agreement focusing primarily on:

- (a) Joint development of 6G telecommunications technology.
- (b) Establishment of a joint naval base in the Indian Ocean.
- (c) Visa-free travel for tourists.
- (d) Exporting Indian agricultural products.

Q87. The Minimum Support Price (MSP) for Wheat for the 2026-27 marketing season was approved by the Cabinet Committee on Economic Affairs (CCEA) at:

- (a) ₹2,125 per quintal (b) ₹2,275 per quintal (c) ₹2,425 per quintal
- (d) ₹2,550 per quintal

Q88. ISRO's highly anticipated "Gaganyaan" mission, India's first manned spaceflight, was officially scheduled for launch in which quarter of 2026?

- (a) Q1 (Jan-Mar) (b) Q2 (Apr-Jun) (c) Q3 (Jul-Sep) (d) Q4 (Oct-Dec)

Q89. Who is the author of the critically acclaimed historical fiction novel "The Echoes of Time", released in January 2026?

- (a) Amitav Ghosh (b) Salman Rushdie (c) Vikram Seth (d) Jhumpa Lahiri

Q90. The "Veerangana Durgavati Tiger Reserve", recently recognized as a major eco-sensitive zone in early 2026, is located in:

- (a) Maharashtra (b) Madhya Pradesh (c) Chhattisgarh (d) Rajasthan

Q91. Who was appointed as the new Chairperson of the Securities and Exchange Board of India (SEBI) in March 2026?

- (a) Madhabi Puri Buch (b) K.V. Kamath (c) Ajay Tyagi (d) Ashwani Bhatia

Q92. In June 2026, Tata Motors announced a massive joint venture for manufacturing electric vehicle (EV) batteries with which global tech giant?

- (a) Tesla (b) Panasonic (c) LG Energy Solution (d) BYD

Q93. Which of the following is India's longest expressway, fully inaugurated in early 2026, drastically reducing travel time between the national capital and the financial capital?

- (a) Purvanchal Expressway
(b) Delhi-Mumbai Expressway
(c) Samruddhi Mahamarg
(d) Yamuna Expressway

Q94. What is the name of India's indigenous nuclear-powered attack submarine launched for sea trials in April 2026?

- (a) INS Arihant (b) INS Arighat (c) INS Chakra (d) INS Aridhaman

Q95. Who was awarded the prestigious Ballon d'Or in 2026 for outstanding performance in international and club football?

- (a) Jude Bellingham (b) Kylian Mbappé (c) Erling Haaland (d) Vinícius Júnior

Q96. Which young Indian chess prodigy won the FIDE World Cup 2026, becoming the youngest Indian to achieve this feat?

- (a) R Praggnanandhaa (b) D Gukesh (c) Nihal Sarin (d) Arjun Erigaisi

Q97. Following the assembly elections in May 2026, who was sworn in as the Chief Minister of Tamil Nadu?

- (a) M.K. Stalin (b) Edappadi K. Palaniswami (c) Udhayanidhi Stalin
- (d) K. Annamalai

Q98. The "Bharat-AI Initiative", a flagship program to integrate artificial intelligence in rural healthcare, was launched in 2026 by which ministry?

- (a) Ministry of Science and Technology
- (b) Ministry of Electronics and Information Technology (MeitY)
- (c) Ministry of Health and Family Welfare
- (d) Ministry of Rural Development

Q99. India launched its first indigenous large language AI model in March 2026, specifically trained on 22 official languages. What is it named?

- (a) IndiaAI (b) BhashiniGPT (c) BharatGPT (d) IndicAI

Q100. Which critically acclaimed film won the "Best Picture" award at the 98th Academy Awards (Oscars) held in 2026?

- (a) The Horizon (b) Echoes of the Past (c) Oppenheimer 2
- (d) The Silent Vanguard